

REMARKS/ARGUMENTS

Applicants wish to thank the Examiner for the care and time taken in acting on this application in the paper mailed September 30, 2005. Reconsideration is respectfully requested. Claims 1, 3-8 and 10-16 are currently pending.

Claims 1 and 3 to 6 were rejected under 35 U.S.C. § 103(a) as obvious over Japanese Patent Publication No. 4-6247 to Katsunori (hereinafter referred to as, "JP '247").

Claims 1, 3 to 8 and 10 to 16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Floreen '527 or U.S. Patent No. 3,318,690 to Floreen et al. (hereinafter referred to as "Floreen '527", "Floreen '690", respectively).

Each of these rejections is separately and respectfully traversed. Favorable reconsideration is respectfully requested.

Amended claim 1 is directed toward a cast exhaust system for engines comprising pressure-containing components comprising an air-melted cast alloy of 0.2 to 0.4 wt. % carbon, 0.1 to 1.5 wt. % of manganese, 34 to 36 wt. % of nickel, 2 to 3 wt. % of chromium, 0.01 to 0.08 wt. % of phosphorus, and a maximum of 0.02 wt. % of nitrogen, among other constituents. JP '247 does not disclose weight percentages of these elements within these claimed ranges and fails to provide an example that meets every limitation of amended claim 1. The claimed invention is not anticipated by JP '247.

Further, the claimed invention is also not made obvious by JP '247. JP '247 does not disclose the recited range of nickel, carbon, or nitrogen. Specifically, the abstract of JP '247, discloses alloys that contain 0.05 to 0.4 wt. % nitrogen, which falls outside the recited range of a maximum of 0.02 wt. %. Applicant's specification, at page 9, line 23 through page 10, line 15, discloses the significance of a low nitrogen concentration including internal soundness (avoiding upgrading and weld repair), and avoidance of pinholing, among other advantages. Further, JP '247 does not disclose the reduction of nitrogen concentration as a means for building alloy strength. The claimed invention is a graphite-free, precipitation hardened alloy that distinguishes itself from other alloys by chemistry and by physical properties. The Applicants also go on at length detailing processes which allow the production of low/no nitrogen concentration systems.

In sharp contrast, JP '247 discloses nothing more than a nitrogen concentration

which does not fit within Applicant's claimed ranges and nothing of the significance of JP '247's disclosed nitrogen concentration.

The claimed invention is novel and non-obvious. Favorable reconsideration is requested.

Applicants have also traversed the Examiner's rejection of the claims based upon Floreen '527 or Floreen '690. Neither Floreen '527 nor Floreen '690 renders the subject matter of claims 1, and 3 to 8 obvious. The claimed invention provides pressure-containing components for gas turbine or internal combustion engines comprising an air-melted, substantially graphite and nitrogen-free cast alloy of the claimed composition.

Rather, Floreen '527 and '690 teach silicon containing and manganese containing alloys, respectively. Neither Floreen '527 nor '690 teach anything of the recited "nitrogen-free" compositions. Nothing in either of the cited references would lead one of ordinary skill in the art to modify the references to include pressure-containing components comprising air-melted, substantially graphite and nitrogen-free cast alloy of the claimed composition.

Furthermore, claim I requires phosphorus in the amount of 0.01 to 0.08 wt. %. Both Floreen '527 and Floreen '690 teach that the steels should be "substantially devoid" of phosphorus (Floreen '690, col. 3, lines 27-29; Floreen '527, col. 3, lines 27-29).

In contrast, 0.01 to 0.08 wt. % of phosphorous is recited in claim 1. Thus, far from suggesting the inclusion of phosphorous in the claimed weight percentages, Floreen '527 and '690 teach away from including any phosphorus in the disclosed cast alloy. Accordingly, the claimed invention is nonobvious.

For the reasons set forth above, reconsideration of the rejections is respectfully requested.

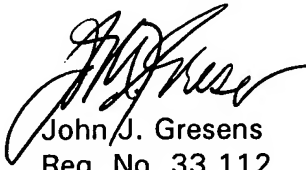
In view of the amendments and remarks recited herein, the application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue.

If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

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